Flight Operations Irregularity Reports

Incident Info
Event Date- 07/13/09
Approximate Time of Event (Central Time) - 1645

Flight Info
Flight Number- 2294
Departure City- BNA
Arrival City- BWI
Diversion City- CRW
Aircraft Type- 300
Aircraft Number- N387SW
Mission- Passenger
Phase/Location at Time of Event- Climb
Flight Plan- IFR
Control Status- Controlled

Flight Conditions
Weather- VMC
Light/Visibility- Daylight
Visibility (NM) - CAVU

Miscellaneous Information
Was an emergency declared? Yes
Logbook entry made? Yes
Dispatch notified? Yes
Maintenance notified? Yes

Aircraft Related
Airspace- Class A
Altitude - MSL (Feet) - 33000
Navaids in Use/Nearest Fix- Navaid
Fix/Approach Description- HVQ
Radial (Degrees 000-360) - 180
Distance (NM) - 110

Submitter Info
Seat Assignment- Left Seat
Duties During Event- Pilot Flying (PF)

Narrative - Prior to our departure from the gate in BNA all required FOM/FAA crew briefings were completed including the required intermittent warning horn briefing. Aircraft departed BNA at 1606 CDT, and airborne at 1615 CDT. We departed Runway 2R with an uneventful taxi, takeoff, climb and initial cruise. Our initial cruise altitude was 33,000 ft. We had received a climb clearance of 35,000 ft., and were in the process of climbing to that altitude when the event took place. I do not recall if we were yet leveled off at 35,000 ft. We had been on a vector and were then given a clearance direct CSN VOR. It was at approximately 1645 CDT that we heard a loud bang, and I heard a loud wind noise. The auto pilot disconnected, I immediately looked at the position of the outflow valve, and it was full closed. The pressure differential pointer was decreasing rapidly and the cabin altitude pointer was increasing. At this point I knew that we had a problem and must initiate an emergency decent, the auto pilot was still disengaged. The cabin warning horn went off, we donned our oxygen masks and established communication with one another and I told the First Officer (FO) to tell ATC that we were starting an emergency descent. I then told him to get out the QRH and look at the cabin warning horn check list, which leads us to the emergency decent check list. He told ATC that we had a pressurization problem and were starting an immediate descent. ATC cleared us to descent to 24,000 ft.; He immediately told

them that we would need to descent lower than that. ATC responded that they would get us lower and gave us 11,000 ft. I told the FO I am off ATC and I called the Flight Attendants (FAs) to find out if they were okay and if they were aware of a problem in the back. I had a hard time hearing her due to the loud wind noise. B Flight Attendant then told me that they were seated and that I understood her to say that there was a crack behind the left over wing emergency exit. I asked her to say it again, were it was. I asked her if the oxygen masks were down and that we were doing an emergency descent. I then made a PA to the Customers that we were initiating an emergency descent to a lower altitude and I believe that I told them that we had lost our pressurization. I came back up with ATC and informed the FO of what the FA had told me. During the descent I reengaged the auto pilot and descended at Mmo/Vmo and over sped approximately 3-4 knots for 3-5 seconds. I asked the FO how he was coming on the check list and he said that he was done. We then discussed our options, I asked him how close we were to BWI, ORF or RDU and we were too far. At approximately 14,000 ft. the A Flight Attendant called us and said that there was a hole in the ceiling of the Aircraft several rows behind the emergency exit. She said that they could see the sky. We knew that we had a structural problem and I began to slow the Aircraft down to try to take the load off. I asked the FO to tell ATC that we were declaring an emergency and ask for vectors to the closest Airport that has 6,000 ft of runway. ATC gave us CRW and said that TYS was about the same distance but behind us. ATC began asking what the problem was, souls onboard, fuel, etc. I elected to go straight toward the direction of our flight path and retrieved the off line charts for CRW. I then made a second PA to the Customers informing them that the aircraft was flying fine and that we were diverting to Charleston, West Virginia. We then began to set up the diversion to CRW and asked the FO to send dispatch an ACARS message to come up on the radio. The FO then advised dispatch that we had lost our pressurization, had a hole in the aircraft, had declared and an emergency and that we were going to CRW. ATC gave us the current weather and CRW was using runway 23. With the winds we were given we requested runway 5 which would take us straight in. I told Marty that I wanted the performance for a flaps 15 landing. This however left us with less than 200 ft stopping margin. I then asked for performance for a flaps 30 landing. I called the FA and told her that we were landing at CRW and to prepare the cabin for an emergency landing. She said emergency or secure, I said emergency. Prior to configuring for the approach I slowed the aircraft to approximately 210 Knots to make sure the aircraft was flying okay at slower speeds. We made a visual approach to runway 5 and noticed that they were standing by with emergency equipment. We landed without incident, I instructed the FO to make a PA to the Customers to remain seated. We taxied to a gate without further incident.

Submitter Info

Seat Assignment- Right Seat
Duties During Event- Pilot Monitoring (PM)

Narrative - Aircraft departed BNA at 1606 central. Normal takeoff, climb and cruise. I am uncertain of our exact altitude at the time of the event but our filed cruise was to be 35000 ft and we had not leveled off there yet. To the best of my recollection we were either level at 33000 ft or in a climb from 33000 ft to 35000 ft. Our location was approximately 110 miles south/southwest of the HVQ VOR. Our first indication of a problem was a fairly loud noise followed by an extremely rapid decompression of the aircraft, followed almost immediately by the cabin altitude warning horn. We donned our oxygen masks, established communication and I announced to ATC that we had a pressurization problem and were starting an immediate descent. ATC cleared us to descend to 24000 ft to which I responded that we would need to descend lower than that. ATC told us they would get us lower and then cleared us to descend to 11000 ft. I then brought out the Cabin Altitude Warning/Abnormal Pressurization checklist and started to run through it. It was immediately obvious that pressurization was not going to be controllable and the Captain continued the Emergency Descent while contacting the Flight Attendants. At some point in the descent the aircraft over-sped by a few knots for approximately 3-5 seconds. The checklist was completed and the Captain and I began to discuss our options as far as divert or how close we were to our destination BWI. At this time the Flight Attendant called and reported that some of the passengers had reported seeing a large hole in the ceiling of the aircraft "that they could see light through". At this point I informed ATC that we were declaring an emergency and would need vectors to the nearest airport with a runway at least 6000 ft long. They gave us an initial heading towards CRW and began asking for the nature of the problem, souls onboard, fuel, etc. We obtained the offline airport charts from behind the

seat, and began setting up for a diversion to CRW. I sent an ACARS message to dispatch to come up on the local frequency 130.47, they complied and I informed them that we had an emergency, were diverting to CRW and would contact them on the ground. I obtained weather from CRW approach control, computed our landing performance for both a flaps 15 and flaps 30 landing and it was decided we would perform a flaps 30 landing. A visual approach was performed and the landing was performed by the Captain with no incident. Once on the ground the aircraft was taxied to a gate with a Jetway, passengers disembarked, and upon inspection of the aircraft is was determined that there was a hole approximately 6 to 8 inches wide by 10 to 12 inches long at the top of the fuselage, above row 20. Passengers were contained and attended to in the gate area while all notifications were made to the company.

Submitter Info
Seat Assignment- Cabin
Duties During Event- NA (Deadhead Captain)

Narrative - On Monday, July 13, 2009, I was commuting from BNA to BWI on flight 2294 when the cabin lost pressure.

I was seated on the First Officer's side of the airplane, somewhere near row 18. Sharing a row with me was a SWA Capt. At some point, after the 10'000' chime, I heard a very loud popping sound, similar to the sound that an escape slide makes as it is inflating. Due to the direction of the sound, I thought that perhaps a door seal within the galley had failed. This sound was followed by immediate wind noise, while not piercing/shrill, was loud enough that conversation between passengers required shouting, and later PA's made by the Flight Attendants were difficult to hear.

Based upon the sudden noise, followed by the wind sound, I perceived this to be a loss of cabin pressurization event, but was surprised when I felt very little ear trauma. In fact the discomfort was not much more than what I experience when descending a mountain in a car. The change in cabin pressure was just enough to require that I clear my ears only once. (Later, when I spoke to the flight crew, they mentioned that they had experienced quite a bit of discomfort almost immediately.)

I contemplated using the manual latch to open the PSU to drop the oxygen masks manually, but then the masks deployed automatically throughout the cabin. At that point, the flight attendants made a PA directing the passengers to don their masks.

Almost immediately, the plane was put into a descent.

Due to the volume of the wind noise and the fact that we were wearing the oxygen masks, the Capt. and I had difficulty communicating. When I finally was able to ask him what he thought had happened, he pointed to the rear of the aircraft. From my seat, I couldn't see any damage. At this point, I was still thinking that this could be a door-related issue.

This was not a Hollywood-type depressurization event. Ear trauma was minimal. No items flew around the cabin. No one was sucked toward the ceiling of the plane. In fact, I noticed that there was not even a hint of an unusual breeze or temperature change within the cabin. Items (including paper) on seat back trays were not disturbed at all.

I found no trouble breathing at any point, with or without the oxygen mask. (I did utilize the mask, all-the-same.) The only somewhat dramatic occurrence that I noticed was when (for whatever reason I actually looked for this) I saw a very light fog form within the cabin. It was so light that it would have gone unnoticed had the sun not been shining directly through the windows at that moment. The light fog dissipated in just 5 seconds or so.

I also noticed no distinct odor within the masks as we've been told to expect.

At some point, the flight attendants made their way into the cabin to check on the passengers. The flight

attendant from the back of the plane was utilizing the fourth mask from the PSUs to breath as she made her way throughout the cabin. During one of these rounds, the Capt., who was seated on an aisle way within view of the damage, passed a message through the flight attendant to the cockpit that this was a structural issue.

Later, when noise levels made it possible for us to talk, the Capt. pointed out a ceiling panel that had been displaced and somewhat deformed.

The plane descended smoothly and the cockpit crew made a couple of announcements describing the situation and intentions. I didn't see any passenger showing any noticeable signs of anxiety.

During the descent, the flight attendants made an announcement explaining the procedures for evacuating the aircraft, should that be required. The passengers were definitely giving them their full attention. Afterwards, the flight attendants reminded the passengers that the previously-mentioned procedures were an "in-case-we-need-to-evacuate" procedure, and to not evacuate unless further instructions directed them to evacuate.

At lower altitudes (and after the oxygen generators had paid out) the flight attendants made another announcement explaining that the masks could be removed. This, along with the presence of the flight attendants through the cabin, seemed to alleviate some of the passengers' worries.

A normal landing was made in Charleston, West Virginia (CRW) with emergency equipment following us to an AirTrans gate.

The passengers were offered medical help when we arrived at the gate. To my knowledge, all declined.

The passengers were asked to remain seated until logistics could be worked out for a suitable seating area within the terminal as we awaited a replacement aircraft. I was told that, due to this not being an airport served by SWA, and therefore, not having boarding passes from that airport, the passengers would not be allowed back into the sterile area, should they decide to leave.

After the passengers deplaned, I examined the ceiling area. During the flight, the panel had been deformed, but remained firmly on the ceiling. After landing, the ceiling panel had been broken, and had relaxed from the ceiling, exposing a hole that made the outside visible.

The flight attendants enlisted the Capt. and me to help them transport cases of soft drinks and snacks to the waiting area, a very thoughtful gesture on their part. The passengers were encouraged to serve themselves as they needed.

Due probably in part to these snacks, and a news stand with candy, I didn't hear any complaints about lack of food. Unfortunately, due to the restriction from exiting the sterile area, an empty airport restaurant located directly beside the waiting area on the other side of a glass wall was not available to our passengers.

Prior to the rescue / replacement flight arriving to take us to Baltimore, MANY boxes of hot pizzas arrived for the passengers. In fact, after we passed out slices of pizza to the entire flight, enough remained for a second round, and for the airline people. (I had pepperoni.) I later learned that the Captain had arranged for the pizzas, and had paid for them with his personal credit card. I would hope that in a similar situation, I would have both the wherewithal and the thoughtfulness to do something similar. Since Monday, several friends from different cities have called me and have mentioned reading about the pizza that was provided. Nice touch. In fact, I overheard one passenger say that this type of service is what they expect with Southwest.

Departing CRW, the passengers were simply jovial, especially when the flight attendants made their emergency PA about the use of the passenger oxygen masks.

Both the flight crew and the cabin crew performed well. I was very proud to be associated with them.

Submitter Info
Seat Assignment- Cabin
Duties During Event- NA (Deadhead Captain)

Narrative - Less than one hour into our flight at cruise, I heard a loud thump followed by very loud air noise as the cabin decompressed. There was a slight cooling of the cabin and brief fogging in the mid cabin, followed by the deployment of the oxygen mask. I was seated in an aisle seat around row eighteen, right side.

The flight attendants shortly thereafter moved through the cabin to assist and reassure the passengers. I was impressed and proud of our cabin crew as they operated both professionally and with calm that I believe also calmed the passengers. I was there if they needed me but, I saw no reason to get up, as the F/As operated like this event was routine. My only involvement was to ask one of the flight attendants to tell the pilots that the aircraft possibly had structural damage.

While the cabin was being managed, the pilots smoothly transitioned the aircraft into a decent. A few minutes into the decent, one of the pilots made an announcement explaining the situation and his intention to land short of Baltimore. The F/As then gave the emergency landing and possible evacuation instructions. The remainder of the flight was uneventful. The entire flight was handled in a professional manner that should make our company proud.